

RANCHO SANTA ANA BOTANIC GARDEN
LEAFLETS
of
POPULAR INFORMATION

Number 40

April 18, 1941



PINUS SABINIANA
DIGGER PINE

1941

RANCHO SANTA ANA BOTANIC GARDEN
of the
NATIVE PLANTS OF CALIFORNIA
Santa Ana Cañon, Orange County, California
Established 1927 in Memory of
JOHN W. BIXBY

PINUS SABINIANA
DIGGER PINE

Pinaceae

Pine Family

Tree 30-75 ft., or occasionally over 100 ft. high; trunk 2-5 ft. in diam., with rough plates of brown bark, usually divided into several secondary trunks which form a broad, open crown. Leaves usually drooping (sometimes erect, especially on young trees), gray-green, with numerous longitudinal rows of stomata on all sides, 6-12 in. long, borne 3 to a fascicle, persisting for 4 or 5 years. Staminate and pistillate cones borne on the same tree. Staminate cones 20-35 on new terminal shoots, just below the new leaves; each cone about $\frac{1}{2}$ in. long, composed of spirally arranged, 2-celled anthers, containing winged pollen grains. Pistillate cones borne in whorls of 1-3 on the main axis or near the tips of lateral branches, usually well above all staminate cones of the same tree; each cone about $\frac{3}{4}$ in. long at time of pollination, slightly reddish; during the first season the stalk or branch of the cone becomes deflexed and the cone reaches a size of 3-4 in. in length; it matures the second season, at which time it is 6-12 in. long, 3-6 in. thick, rather symmetrical, rich brown; scales heavy, with stout, recurved projections; seeds 2, on the upper surface of each scale, $\frac{1}{2}$ -1 in. long, slightly flattened, with a hard, almost black shell, and an oblique wing extending $\frac{1}{4}$ - $\frac{1}{2}$ in. beyond the tip of the seed. Cotyledons 10-16; in germination the seed coat is often carried above the ground by the cotyledons; the taproot becomes several inches long before the secondary leaves and stems are more than an inch high.

The genus *Pinus* (ancient Latin name) consists of over 100 species widely distributed in the northern hemisphere. California has about 20 kinds, several of which are valuable lumber trees, while others are highly prized in horticulture throughout the world.

Pinus Sabiniana (specific name in honor of Joseph Sabine, Secretary of the London Horticultural Society at the time of Douglas) was described in 1833 by David Douglas (1798-1834), Scotch botanist and explorer, who collected in California from 1830-32. It is believed that Douglas obtained his specimens in the Coast Ranges of what is now San Benito Co. This species was thus one of the first California pines to become known, and, to this day, occupies a unique position in that it has no synonyms. The only pine with which it might be confused is the Big-Cone or Coulter Pine which has larger cones, blue-green foliage, is usually taller and has but a single trunk.

Distribution of *Pinus Sabiniana* is entirely in California. Its northern limits are Hoopa Valley, along the Trinity River, and in the Sacramento River Canyon at about 1000 ft. From these points it extends south through the Coast Ranges to Los Angeles Co., and in an almost continuous belt in the Sierra Nevada foothills. It generally is most abundant at elevations of 1000-2500 ft., but sometimes ascends to 5000 ft. It seldom forms pure stands but dots the hillsides giving accents to

the more or less uniform growths of oaks, chaparral and grasses. At its upper altitudinal limits it intermingles with Yellow and Coulter Pines. Because of its widespread distribution it is a reliable plant indicator for the Upper Sonoran Zone.

The Digger Pine gets its most common English name because the Digger Indians used the large nuts as a staple food item. It is also called Gray Pine, Sabine's Pine and Blue Pine. It is cut for firewood in considerable quantities, but is not used commercially for lumber.

Ranchers in the regions where the Digger Pine is abundant have frequently destroyed the trees thinking that they could thus increase the grass pasturage. Unfortunately, such areas are quickly invaded by unpalatable chaparral, and the sparse grass formerly growing under the pines is choked out.

The Digger Pine has attained only a limited popularity in cultivation, possibly because of its gray color and habit of branching into several trunks, but both of these features make it one of the most picturesque of all pines. In the Sacramento Valley there are many fine, large, cultivated trees, some of which are probably over 50 years old.

Propagation of *Pinus Sabiniana* is from seeds. The cones mature about October, and should be gathered immediately, since they soon open and shed most of their seeds. They close again, but remain on the tree for a year or two, generally dropping in the early spring. Cones can be made to open readily by putting them in a fire for a few minutes. Seeds should be planted the fall of the same season that they are collected. Outside seed beds are best. Space the seeds 1-2 in. apart and cover with about 1 in. of sand. Germination may take several months, but most of the seedlings should appear by May. At the end of the first season these will be about 6 in. high, and can be planted bare root, or they may be left in the seed bed for another season. Two year old seedlings are ordinarily about 18-24 in. high. The young seedlings may also be grown in containers, but great care must be taken to avoid coiled roots or stunting.

Plantings in the Garden have been made by both of the above mentioned methods, but those trees put out bare root now give every indication of making the best trees. The oldest of our trees are now 12 years old, about 20 ft. high, have a spread of 8-10 ft., trunks 6-8 in. in diam., and are beginning to produce cones. Under our conditions they do not require irrigation after the third season.

The Digger Pine is recommended for dry hillside plantings in California, being, perhaps, the most drouth resistant of all native pines. At the same time it is fairly rapid in growth. It may even be called beautiful, provided its gray foliage is not objectionable.

Several California nurserymen carry the Digger Pine, and fine specimens may be obtained, either in containers, or as balled, field grown trees.

CARL B. WOLF.

RANCHO SANTA ANA BOTANIC GARDEN

Dedication of Garden Foundation to the Board of Trustees for the Rancho Santa Ana Botanic Garden of the Native Plants of California:

"THE NATURE, OBJECT AND PURPOSE OF THE INSTITUTION
HEREBY FOUNDED AND TO BE MAINTAINED HEREUNDER.

ITS NATURE: A botanic garden of the native plants of California, herbarium and botanical library, containing living and/or preserved specimens of trees, plants and flowers native to California, and literature relating thereto.

ITS OBJECT: The preservation and improvement of the property now transferred and such property as may hereafter be transferred to the Trustees for those who not only wish to enjoy, but to study, assembled in one accessible locality, native California plants; and for the advancement of science and education with reference to plant life indigenous to the State of California.

ITS PURPOSES: (a) An institution founded primarily for scientific research in the field of local botany.

(b) To preserve the native California flora, try to replenish the depleted supply of some of the rarest plants which are rapidly being exterminated, and bring together in a comparatively small area as complete a collection of the rich store of native California plants as can be grown in this southern section of the state, thereby promoting the general welfare of the people of the state by providing the means for encouraging and carrying on the above mentioned activities in said state and by doing such other things as may be necessary and desirable to carry out the objects hereof."

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Published by the

DR. ERNEST A. BRYANT GARDEN PUBLICATIONS FUND
RANCHO SANTA ANA BOTANIC GARDEN
R. F. D. Anaheim, California